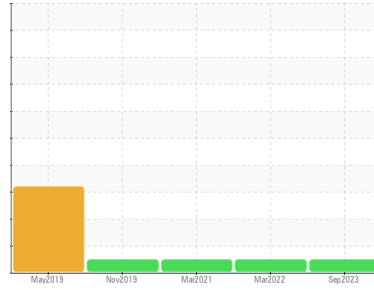




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
GM Seattle Off Road Shop
 Machine Id
[GM Seattle Off Road Shop] 24-170
 Component
Diesel Engine
 Fluid
SHELL 15W40 (--- GAL)

DIAGNOSIS

Recommendation
 Resample at the next service interval to monitor.

Wear
 All component wear rates are normal.

Contamination
 There is no indication of any contamination in the oil.

Fluid Condition
 The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	PE0000537	PE12290961	PE12291352
Sample Date	Client Info	15 Sep 2023	22 Mar 2022	28 Mar 2021
Machine Age	hrs	2318	1505	1263
Oil Age	hrs	813	450	711
Oil Changed	Client Info	Changed	Changed	Changed
Sample Status		NORMAL	NORMAL	NORMAL

CONTAMINATION

method	limit/base	current	history1	history2
Fuel	WC Method >5	<1.0	<1.0	<1.0
Glycol	WC Method	NEG	NEG	NEG

WEAR METALS

method	limit/base	current	history1	history2
Iron	ppm ASTM D5185m >100	32	15	61
Chromium	ppm ASTM D5185m >20	<1	0	1
Nickel	ppm ASTM D5185m >4	0	0	0
Titanium	ppm ASTM D5185m	0	0	1
Silver	ppm ASTM D5185m >3	0	<1	<1
Aluminum	ppm ASTM D5185m >20	1	2	5
Lead	ppm ASTM D5185m >40	<1	0	2
Copper	ppm ASTM D5185m >330	1	1	4
Tin	ppm ASTM D5185m >15	0	0	0
Antimony	ppm ASTM D5185m	---	1	0
Vanadium	ppm ASTM D5185m	0	0	0
Cadmium	ppm ASTM D5185m	0	---	---

ADDITIVES

method	limit/base	current	history1	history2
Boron	ppm ASTM D5185m	20	28	114
Barium	ppm ASTM D5185m	0	0	1
Molybdenum	ppm ASTM D5185m	34	35	64
Manganese	ppm ASTM D5185m	<1	---	---
Magnesium	ppm ASTM D5185m	496	594	578
Calcium	ppm ASTM D5185m	2125	1657	1642
Phosphorus	ppm ASTM D5185m	1018	987	907
Zinc	ppm ASTM D5185m	1319	1162	1101
Sulfur	ppm ASTM D5185m	4493	---	---

CONTAMINANTS

method	limit/base	current	history1	history2
Silicon	ppm ASTM D5185m >25	7	3	13
Sodium	ppm ASTM D5185m >150	4	2	3
Potassium	ppm ASTM D5185m >20	2	2	21

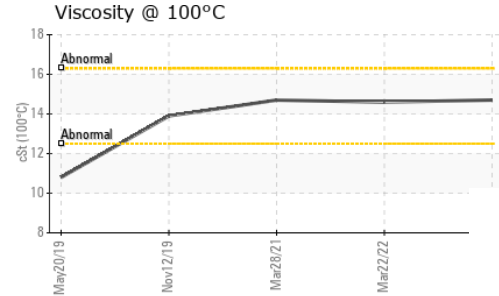
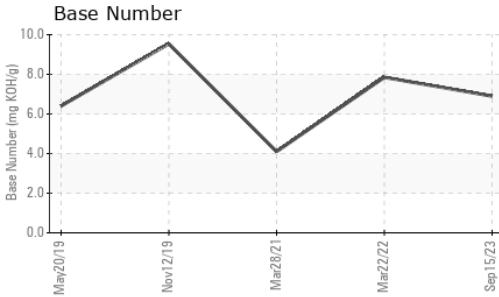
INFRA-RED

method	limit/base	current	history1	history2
Soot %	% *ASTM D7844 >3	1	0.2	1.0
Nitration	Abs/cm *ASTM D7624 >20	11.3	10	15
Sulfation	Abs/.1mm *ASTM D7415 >30	22.8	---	---

FLUID DEGRADATION

method	limit/base	current	history1	history2
Oxidation	Abs/.1mm *ASTM D7414 >25	17.7	15	26
Base Number (BN)	mg KOH/g ASTM D2896	6.9	7.85	4.10

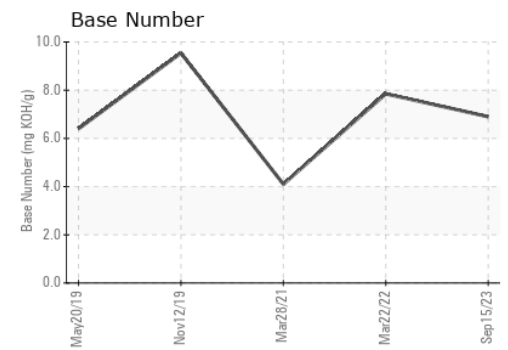
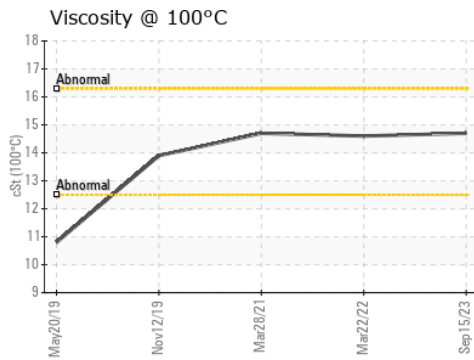
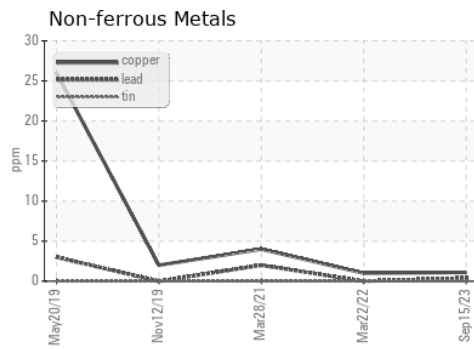
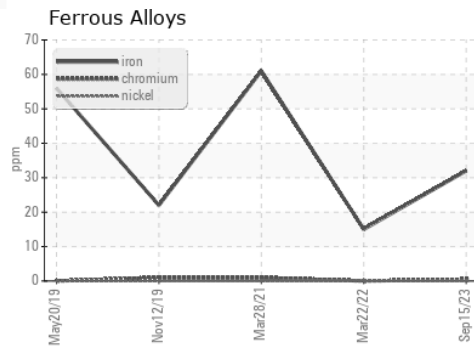
OIL ANALYSIS REPORT



VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	---
Free Water	scalar	*Visual		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.7	14.6	14.7

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PE0000537 **Received** : 25 Sep 2023
Lab Number : **05960480** **Diagnosed** : 27 Sep 2023
Unique Number : 10661693 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: FT-IR, ICP, KV100, SCREEN, TBN)

Gary Merlino Construction - Off Road Shop
 9125 10TH AVE SOUTH
 SEATTLE, WA
 US 98108
 Contact: Jesse Patterson
 oilsamples@gmccinc.com
 T: 1(866)292-1303
 F:

Certificate L2367
 To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)